# PATENT COOPERATION TREATY

# PCT



## INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

| Applicant's or agent's file reference | FOR FURTHER ACTION | See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416) |
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| 2004 DC 107 E | | |
| International application No. | International filing date *(day/month/year)* | Priority date *(day/month/year)* |
| PCT/EP2004/014142 | 13.12.2004 | 17.12.2003 |
| International Patent Classification (IPC) or both national classification and IPC | | |
| INV. E05F15/16 | | |
| Applicant | | |
| NICE SPA et al | | |

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.

2. This REPORT consists of a total of 5 sheets, including this cover sheet.

   ☒ This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

   These annexes consist of a total of 4 sheets.

3. This report contains indications relating to the following items:

   - I ☒ Basis of the opinion
   - II ☐ Priority
   - III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
   - IV ☐ Lack of unity of invention
   - V ☒ Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
   - VI ☐ Certain documents cited
   - VII ☐ Certain defects in the international application
   - VIII ☐ Certain observations on the international application

| Date of submission of the demand | Date of completion of this report |
|---|---|
| 14.10.2005 | 15.05.2006 |
| Name and mailing address of the international preliminary examining authority: | Authorized Officer |
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# INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No. PCT/EP2004/014142

## I. Basis of the report

1. With regard to the **elements** of the international application *(Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17))*:

**Description, Pages**

| | |
|---|---|
| 3-9 | as originally filed |
| 1, 2 | received on 04.11.2005 with letter of 27.10.2005 |

**Claims, Numbers**

| | |
|---|---|
| 1-12 | received on 04.11.2005 with letter of 27.10.2005 |

**Drawings, Sheets**

| | |
|---|---|
| 1/8-8/8 | as originally filed |

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

   These elements were available or furnished to this Authority in the following language: , which is:

   ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).

   ☐ the language of publication of the international application (under Rule 48.3(b)).

   ☐ the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

   ☐ contained in the international application in written form.

   ☐ filed together with the international application in computer readable form.

   ☐ furnished subsequently to this Authority in written form.

   ☐ furnished subsequently to this Authority in computer readable form.

   ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.

   ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

   ☐ the description, pages:

   ☐ the claims, Nos.:

   ☐ the drawings, sheets:

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)).

   *(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)*

6. Additional observations, if necessary:

## V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

| | | | |
|---|---|---|---|
| Novelty (N) | Yes: | Claims | 1-12 |
| | No: | Claims | |
| Inventive step (IS) | Yes: | Claims | |
| | No: | Claims | 1-12 |
| Industrial applicability (IA) | Yes: | Claims | 1-12 |
| | No: | Claims | |

2. Citations and explanations

**see separate sheet**

**Re Item V**

**Reasoned statement with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

1. Reference is made to the following documents:

   D1: US 2003/121619 A1 (SZPUR ROMAN) 3 July 2003 (2003-07-03)
   D2: DE 86 01 049 U1 (OTTO STERKEL GMBH & CO, 7980 RAVENSBURG, DE) 13 March 1986 (1986-03-13)
   D3: GB-A-2 154 369 (JEFFREY GIBBON) 4 September 1985 (1985-09-04)
   D4: DE 11 39 903 B (FA. HEINRICH KOPP; INH. THEODOR SIMONEIT) 22 November 1962 (1962-11-22)

2.1 The present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claim 1 does not involve an inventive step in the sense of Article 33(3) PCT for the following reasons:

2.2 D1 discloses (paragraph 17,18; figures 1-4) a power operated door opening and closing system with:
- an electric drive motor (12)
- an electric drive motor control unit (20)
- a control switch (10") controlled by a pulling string (26').

2.3 The subject-matter of claim 1 therefore seems to differ from this known system in that:
- the control switch is a push-type switch;
- it comprises a support member on which is hinged a lever member capable of converting the pulling of the string into a pressure upon the push-button switch.

2.4 Although this differing feature is not explicitely disclosed in D1 (the internal mechanism of switch (26,26') is not shown), providing a lever-type conversion system to control a push-button switch, is generally known to the skilled person; see e.g. D3 (column 2, lines 26-49; figure 1,2: "string (26), lever (40), push-button (16)").

The skilled person would regard it as a normal design option to include this differing feature in the D1-system in order to remotely control the push-button switch.

3. For similar reasons, independent claim 2 cannot be regarded inventive, as a pull-type switch (being the only difference with respect to independent claim 1) is one of the two possiblities of switches (pull-type or push-type respectively) to which the skilled person would adapt the lever-type conversion system.

4. Dependent claims 3-12 seem not to contain any features which, in combination with the features of any claim to which they refer, meet the requirements of the PCT in respect of inventive step,

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(annex A)

AMENDED CLAIMS

1 Power operated door opening and closing system (10) of the type adapted to be mounted to a ceiling, comprising:

a) an electric drive motor,

b) an electric motor control unit,

c) an electric push-button switch (40) to control motor operation,

d) a string (30) or similar contrivance,

~~e) a mechanism (42, 44; 42, 64; 42, 74) adapted to convert the pulling of the string (30) into a pressure upon the push-button switch (40),~~

characterized in that it comprises a mechanism (42, 44; 42, 64; 42, 74) **with a support member (42), on which there is hinged a lever member (44) capable of converting** ~~adapted to convert~~ the pulling of the string (30) into a pressure upon the push-button switch (40).

2. Power operated door opening and closing system (10) of the type adapted to be mounted to a ceiling, comprising.

a) an electric drive motor,

b) an electric motor control unit,

f) an electric pull-type control switch (40) to control motor operation,

c) a string (30) or similar contrivance,

~~e) a mechanism (42, 44; 42, 64; 42, 74) adapted to convert the pulling of the string (30) into a pulling action of the pull-type control switch (40),~~

characterized in that it comprises **a mechanism with a support member (42), on which there is hinged a lever member (44) capable of converting** ~~adapted to convert~~ the pulling of the string (30) into a pulling action upon the push-button switch (40).

3. System (10) according to claim 1 or 2, wherein said string (30) is provided with a certain elasticity.

4. System (10) according to claim 1 or 2 or 3, wherein at least an elastic member is provided along said string (30).

5. System (10) according to any of the preceding claims, wherein ~~said mechanism~~ al least **one mechanical element acts as a displacement limit and** defines a displacement of said string (30).

6. System (10) according to claim 5, wherein said displacement includes a resting position of the string (30) corresponding to one of the ends of the displacement path.

7. System (10) according to claim 6, wherein said mechanism includes a device adapted to cause the string to slide back into the resting position thereof when the same string is not actuated.

8. System (10) according to any of the preceding claims, ~~wherein there is provided a string path inverting loop for mounting to the system's casing (20), a wall or a ceiling~~ **comprising mounting means for establishing a path for the string.**

**9. System (10) according to claim 9, wherein the path for the string is a loop inverting the direction of action of the string.**

~~9~~**10**. System (10) according to any of the preceding claims: in which said mechanism includes ~~a direct activation member (AD) adapted to be actuated directly by a user so as to cause a pressure to be applied to the push-button switch (P) or a pulling force to be applied to the pull-type control switch~~ **a transmission member (T) adapted to receive a displacement motion by said lever member (44, AD).**

~~10~~**11**. System (10) according to claim ~~9~~**10**, wherein said mechanism includes ~~an indirect actuation member (AI) connected to the string (C) and a transmission member (I) adapted to receive a displacement motion by both said direct actuation member (AD) and said indirect actuation member (AD and pass on this displacement to the push-button or pull-type switch~~ **a direct activation member (AD) adapted to be actuated directly by a user so as to cause a pressure to be applied to the transmission member (T) or a pulling force to be applied to the transmission member (T).**

~~11~~**12**. System according to any of the preceding claims, comprising a further electric push-button switch connected in parallel to said push-button or pull-type switch and located on the system's casing.

(annex B)

## STATE OF THE ART

US2003/0121619 (D1) discloses a **garage door security system** and more particularly to electrical devices for preventing unauthorized access to a garage having an electric garage door opener installed on the garage door.

Thus, a device capable of being actuated to turn-on and turn-off electric power is coupled to **the electric power line** that energises the electric motor. By actuating the device to disconnect the electric power, one positively prevents the garage door from being opened for an indeterminate period of time or until the device is actuated again to re-connect the electric power.

Essentially, this document discloses an electric motor 12 supplied **by a conventional manual push-button switch 18;** no other indications thereof are given. The motor 12 is controlled by a receiver controller 20 which has a conventional male plug 24 inserting into a corresponding female electrical outlet 36.

The invention teaches that the male plug 24 be operably connected to a security device 10' which includes an on/off switch actuator 26 and a female socket 30 operably connected to a male plug 34 via the actuator 26.

The male plug 24 is operably connected to the female socket 30 of the security device 10' and the male plug 34 of the security device 10' is operably connected to an electrical outlet 36.

The actuator switch 26 may be a pull chain type 26' or toggle switch 26 or other type switch which can be used to turn electric power on and off.

When a homeowner is absent, for example on vacation, he actuates the security switch 26 to disconnect the mains from the motor 12. thus the security device 10', 10" prevents others from gaining unauthorized access to the garage because the electric power to the motor has been cut off.

What D1 really teaches is to insert a **second** switch in series with the supply line of the motor.

DE8601049U (D2)

This document relates to a switch 10, 17 operable with a cord 16. The switch 10, 17 is connected to a casing 1, 6 fixed to the ceiling 3. The invention is simply to provide a vertically displaceable bolt 11 - connected to the cord 16 - which operates the switch 10, 17 upon pulling the cord 16.

In this way the invention can achieve a vertically operated switch in respect to prior art switches where the cord was extending laterally from the casing.

## THE INVENTION

The invention wants to solve the technical problem of making the push buttons for actuating an opening and closing system more comfortable to reach and use.

This is mainly accomplished by equipping the known actuating systems with a string 30 connected to the operating switch(es) of the system. In order to let the string 30 to be positioned hanging from the ceiling where it is more comfortable to use, "a ceiling-mounted path inverting loop for the string 30" is used (see page 6 lines 3-9).

Since the string path **can be established or not, and in any direction,** the inventions uses an inventive mechanism (see Figures 3 to 8b and page 7 lines 8-13) comprised of a support member 42, on which there is hinged a lever member 44; the string 30 is coupled to an end portion 46 of the lever member 44, whereas the opposite end portion 48 of the lever member 44 is capable of acting upon a push-button 40: when a pulling force is applied to the lever member 44 via the string 30, the same lever member 44 is caused to rotate, thereby moving into pushing the push-button 40.

The lever member will be given any other shape as far as this is effective in enabling it to perform in the intended manner (see pag. 7 lines 16-19).

Using a lever rotating member actually permits to operate the string 30 with a direction parallel to the ceiling and also vertically.

Such a technical feature (and the related advantages) are neither comprised nor suggested in the prior art documents.

D1 does **not** mention the internal construction of its **second** switch.

D2 has an actuating element moving **along a line of action**.

Also document GB 2 154 369 cited in the Search Report is very different. It comprises "a switching mechanism 18 which is an ancillary part of an electric switch 10 or other device changeable between two conditions. Such a mechanism 18 has a T-shaped element 40 whose head 48 engages a tumbler 16 and whose stem 46 has a profile including two abutments 52, 54 separated by an apex 50. The T- shaped element 40 is pivotally movable between two positions to operate the tumbler 16 "on" or "off" by successive movements of a second element 42 pivotally carried by a third element 44 connected to an operating cord 26. The second element 42 is deflected by the apex 50 from a median position into engagement with one or other abutment. Further movement of the second element 42 displaces the first element 40. A spring 70 restores the third element 44 on release of the cord 26 and the second element 42 is restored to its median position when its head 60 engages the housing surface 72".

This complicated system resembles the known mechanisms used to extract the writing pin from the casing of a pen; and there's no lever element **directly** connected with the cord.

The Claims submitted to the Preliminary Examination are amended according to the preceding arguments and focus the invention on the lever element. In particular, support for the amended claims can be found in the description as filed according to the following references:

Claim 1 and 2: page 7, lines 8-13 and figures 2 to 8b.
Claim 5: page 7, lines 29-32.
Claim 8 and 9: pag. 6, lines 3-8 and figures 2 to 8b.
Claims 10 and 11: page 8, lines 14-21 and figures 8a, 8b.